

Damage Infliction -Assessing the Prize

42. The level of effectiveness required, however difficult to establish, is crucial to determining quality and quantity and thus in establishing the cost of whatever system is selected. It is however so far impossible to establish any finite conclusions from the strategic systems which at present exist. We know the United States damage criterion; and we know that the Soviet Union have not undertaken major aggression. We do not know that the latter is a consequence of the former, and we do not know whether, if it is, any lower level of effectiveness would have deterred. The question may be expressed as "how many Soviet cities need to be able to be destroyed to achieve a deterrence effect?", and it is immediately clear that, since the answer essentially derives from assumptions about Soviet psychology it must be highly speculative. Yet much depends on it.

43. United States' calculations of the capability she requires have to be based on the possibility that the Russians might be prepared to run very high risks indeed, and to undergo a level of destruction which other countries would regard as unacceptable if in so doing she was able to eliminate the other nuclear super-power from the next few hundred years of world history; the United States thus feels that she needs to convince Russia beyond all possible doubt that if she attacked the continental United States, she would not survive as a nation to enjoy her "victory".

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This requires hundreds of weapons.

~~44. In Europe, however, the prizes for Russia are not so great and the stakes not so high; the objective is not all or nothing, whatever risks Russia might calculate she would have to run in~~

CONCLUSIONS

57. The main justification for the possession of a nuclear deterrent is to provide the ultimate guarantee of national security and sovereignty, and to protect national interests where conventional defences are no longer effective. Without such a deterrent, the United Kingdom has no means of countering nuclear attack, nuclear blackmail, or large-scale conventional aggression.

58. A British deterrent force is of value in NATO in that it provides the Alliance with a European contribution to the overall deterrent, and a second centre of decision for nuclear retaliation. Other than France no European member possesses this capability. If a British deterrent force did not exist, the United States would have a monopoly of NATO's nuclear power. Conversely the necessity for such a European element becomes stronger as the American nuclear guarantee becomes progressively less credible.

59. In both contexts the value of the British deterrent depends upon the decision to use it remaining under unfettered national control, and for this to be clearly seen to be so. There is no justification for maintaining a force which is an adjunct to the United States deterrent and the use of which is entirely under American control. Our present dependence on the United States for material assistance, RETAINED UNDER SECTION 3(4) does not amount to control.

60. It is difficult to show that possession of a nuclear deterrent confers on Britain any special status world-wide. But it is unquestionable that our position in NATO and in Europe would be very different if we were not a nuclear power. It would be undesirable for France to be the only such power in Europe.

61. With regard to the likely attitudes of our principal allies to the possession of our own nuclear capabilities:

a. The United States may come to welcome the strengthening of the European policy of the Alliance which a British capability helps to provide. This, however, has to be considered against possible United States' disenchantment with a capability for escalation to the strategic level which she herself cannot control.

b. Germany is likely to be much influenced by the attitude of the United States; she would not wish any development which either seemed to weaken United States involvement in Europe, or appeared to portend an Anglo-French dominance of the Continent.

c. The attitude of France is likely to be guided by her self-interest in terms of possible collaboration, and her scepticism as to whether our nuclear capability could be regarded as significant in Allied terms.

62. As to the level of effectiveness required:

a. The force, and its system of control, must be able to remain effective in the face of pre-emptive attack. Unless absolute reliance therefore is to be placed on the factor of warning time, the force must be ready for use at all times and not merely during periods of tension.

b.

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(Concluded)

c. Our assessment of the likely development of the Soviet ABM defences (taking into account such limitations as may arise from a SALT agreement) leads us to conclude that we shall be unable to maintain this criterion in full unless our force has the ability to penetrate to and strike certain targets within the ABM cover.

POSEIDON

1. Poseidon is an intermediate range solid-fuelled ballistic missile in the course of introduction into service with the US Navy. By the mid 1970s the US Navy's contribution to the US strategic retaliatory forces will consist of 656 Polaris and Poseidon C3 missiles carried in 41 nuclear submarines (31 Poseidon and 10 Polaris).
2. On present US plans, it seems likely that the Poseidon (C3) missile will be replaced in the late 1970s by the longer range C4 system, and that the date of deployment of the Undersea Long Range Missile System (ULMS II) will be brought forward to 1978-1979. While early indications were that the last 10 Polaris submarines would be phased out by 1980, it now seems possible that the last of these boats may be ^{deployed} ~~XXXX~~ until about 1984.

EFFECTIVENESS OF POSEIDON

3. Poseidon offers four main operational advantages:

- a. It is a fully proven system already in operational use in the US Navy.

- b. It offers a number of payload/range options.

The re-entry system is a MIRV dispenser, which carries a variable number of re-entry bodies up to a maximum of 14, each of which contains an individually targettable single warhead whose yield approximates to about one quarter of that of each of Polaris' three warheads. With 12 warheads, the range of the missile is 2000 nm; with six 2500 nm. The maximum

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range of 3000 nm is achieved carrying one warhead. For comparison, the present Polaris system with three warheads has a range of 2500 nm; Polaris with Super Antelope should have a range of not less than 2000 nm.

c. Poseidon's re-entry bodies have significantly better accuracy than those of Polaris. This is unimportant in the case of city targets and large military NATO targets, but would give a better capability against smaller NATO military targets.

d. All the objects presented to ABM defences are warheads and all are capable of fully re-entering the earth's atmosphere and would therefore be effective should the Russians develop endo-atmospheric defences in addition to their present exo-atmospheric defences. Their very number should confuse defences, but in any case the great lifting ability of the Poseidon missile gives it great capabilities for substituting decoys for warheads.

Implications of a UK Conversion Programme

4. The UK's existing SSBNs are suitable for conversion to POSEIDON although major modifications would be required. The Polaris missiles would need to be replaced by POSEIDON missiles. Allowing 12 warheads per deployed missile, the UK would need to develop and produce some 600 warheads. Technically this would be possible given sufficient access to US design and agreement to several UK underground nuclear tests in the USA. Moreover, it would

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make heavy demands on our stocks of fissile material necessitating manufacture of further material in the UK or purchase from the USA.

5. Current estimates suggest that the gross cost of the conversion of a 4 SSBN force to POSEIDON would be about £350M (at 1971 prices excluding any R & D levy, on the assumption that the US give us all their POSEIDON warhead design information and that the UK development of an appropriate warhead proves feasible.) But against this sum should be offset the extra cost of supporting a POLARIS force beyond the date of phasing out of Polaris by the US Navy and the extra effective life that a POSEIDON force would have over a POLARIS force. The conversion programme would aim to see the first boat deployed in 1978 and all four SSBNs being armed with POSEIDON in early 1981.

6. In order to present a comprehensive statement to Ministers later in the year on the implications of sustaining the credibility of the existing UK force by means of Super Antelope or Poseidon authoritative information is needed from US authorities. This would include:

a. A statement of the latest US plans for the Polaris A3 weapon system and of the problems in maintaining a UK Polaris force.

b. Updated costs and expected service lives of Poseidon, C3 and C4, and the operational performance of the latter system.

c. The attitude of the US Government to the provision of assistance to the UK on a POSEIDON conversion;

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d. Whether the US would be prepared to give us sufficient access to their POSEIDON warhead (as they did with Polaris) and to sell us the non nuclear components including the re-entry body shells.

7. Statements on c. and d. above will require an approach at the highest level to the US. Information on a. and b. should be obtainable on a Navy to Navy basis.

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